

Amendments to the Claims:

The listing of claims will replace all prior versions, and listings, of claims in the application:

5 **Listing of Claims:**

Claim 1 (Currently Amended): A method for performing channel scanning, automatically scanning at least a channel of a received signal comprising:

scanning a plurality of frequency bands; and

10 analyzing [[each]]at least one of the frequency bands to determine if the frequency band holds [[the]]a received signal, if it does:

detecting a frequency response of the received signal[[; and]], comprising:

detecting energy magnitudes of the received signal corresponding to a plurality of frequencies;

15 generating an averaging result according to the energy magnitudes; and
acquiring the frequency response of the received signal according to the averaging result; and

detecting a characteristic of a channel according to the frequency response of the received signal;

20 wherein the received signal corresponds to the channel.

Claim 2 (Original): The method of claim 1 wherein frequency ranges of the plurality of frequency bands are different.

25 Claim 3 (Original): The method of claim 1 wherein bandwidth of each frequency band is the same.

Claim 4 (Original): The method of claim 1 wherein the characteristic of the channel at least comprises an edge frequency of the channel, a carrier frequency of the channel, and a symbol rate of the channel.

- 5 Claim 5 (Currently Amended): A receiver for performing channel scanning, automatically scanning at least a channel of a received signal comprising:
- a tuner for scanning a plurality of frequency bands in sequence;
- a signal detecting unit for analyzing [[each]]at least one of the frequency bands to determine if the frequency band holds [[the]]a received signal;
- 10 a spectrum analyzer for detecting a frequency response of the received signal[[; and]], comprising:
- a down-converter for detecting energy magnitudes of the received signal corresponding to a plurality of frequencies;
- an average unit for generating an averaging result according to the energy magnitudes; and
- 15 a magnitude analysis generator for acquiring the frequency response of the received signal according to the averaging result; and
- a channel-parameter detecting unit for detecting a characteristic of [[the]]a channel according to the frequency response of the received signal;
- 20 wherein the received signal corresponds to the channel.

Claim 6 (Original): The receiver of claim 5 wherein frequency ranges of the plurality of frequency bands are different.

- 25 Claim 7 (Original): The receiver of claim 6 wherein the tuner further comprises a mixer, and the tuner determines the plurality of scanned frequency bands according to a scan frequency of the mixer.

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Claim 8 (Original): The receiver of claim 7 wherein the receiver further comprises a control circuit for controlling the scan frequency of the mixer according to the received signal.

5 Claim 9 (Original): The receiver of claim 5 wherein the signal detecting unit further comprises an auto-gain controller for adjusting a signal gain of the receiver, and the signal detecting unit detects whether the frequency band holds the received signal according to the signal gain.

10 Claim 10 (Cancelled)

Claim 11 (Currently Amended): The receiver of claim [[10]]5 wherein the average unit is a low-pass filter.

15 Claim 12 (Currently Amended): The receiver of claim [[10]]5 wherein the receiver further comprises a control circuit for controlling the operating frequency of the adjustable-down-converter according to the frequency response of the received signal.

20 Claim 13 (Original): The receiver of claim 5 wherein the channel-parameter detecting unit further comprises:

a signal processing module for processing the frequency response of the received signal; and
a channel-parameter detecting circuit for determining the characteristic of the channel according to the processed frequency response of the received signal.
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Claim 14 (Original): The receiver of claim 13 wherein the signal processing module at least comprises:

a low-pass filter; and
a high-pass filter respectively coupled to the low-pass filter and the channel-parameter detecting circuit.

- 5 Claim 15 (Original): The receiver of claim 5 wherein the characteristic of the channel at least comprises an edge frequency of the channel, a carrier frequency of the channel, and a symbol rate of the channel.

- 10 Claim 16 (Original): The receiver of claim 5 wherein the receiver further comprises a channel scan/control circuit for controlling the tuner to scan the plurality of frequency bands in sequence.